

AMENDMENTS TO THE SPECIFICATION:

Page 1:

Please substitute the following paragraph for the paragraph beginning at line 21:

B1
According to Japanese Patent Application Laid-Open No. Hei 7(1995)-36759, an IC card is disclosed, which includes a card controller for controlling the inside of a card and a ~~microcomputer~~ microcomputer for controlling a card controller and file data, uses mask ROM and a flash memory for file data storing memory as a local memory and shares its mask ROM as an attribute storing memory. Further, it is aimed to improve the speed of writing a memory, grow longer the span of life, reduce the price, and improve the reliability by using PSRAM as a control table as a part of data management information (information for uniforming rewriting number of times by recording rewriting number of times), a write buffer for improving writing speed and a garbage buffer at the time of erasing unnecessary data.

Page 2:

Please substitute the following paragraph for the paragraph beginning at line 21:

B2

In accordance with Japanese Patent Application Laid-Open No. Hei 6(1994)-52674, flash EEPROM of the first mass storage unit is mounted on a printing circuit board, and flash EEPROM of the second mass storage unit is also mounted on the same printing circuit board. In this case, flash EEPROM of the second mass storage unit is mounted detachably by way of an IC socket. Thus, since it is possible to exchange ~~flush~~flash EEPROM, in which management information is stored, by each chip unit, it is possible to maintain the mass storage subsystem.

Page 3:

Please substitute the following paragraph for the paragraph beginning at line 7:

B3

When the present ~~inventor~~inventors examined the function of the conventional memory unit, the memory area has been managed as one memory area as the whole memory device. Since the memory area is not identified separately, it is found that each of areas cannot be controlled separately by dividing the memory device into several areas logically. To put it concretely, in the case in which there exist data that should not be rewritten or erased erroneously by a public user in the memory unit, it is

B3
encl

convenient for protection if the data thereof can be protected just by being put in the prescribed areas as writing is prohibited. Since the conventional memory unit can not be separately controlled by each area in one memory unit, it is not possible to protect data existing in the areas by only the specified memory area being set as writing is prohibited. Further, in the case in which it is required to get log data of user's usage conditions, even if it is required to protect log data that are stored in the specified memory areas such that the data thereof should not read by the user, etc., it is very difficult to do so. Further, in the case in which the electrical power of the aforementioned memory unit is shut off at the time that data are written in the memory unit, it may take place that the data of the areas, in which data have been written, are erased. However, it is not possible to recover the data thereof by the memory unit.

Page 4:

Please substitute the following paragraph for the paragraph beginning at line 11:

B4
TheAn object of the present invention is to provide
technology for restricting accessing to the specified
memory areas.

Page 5:

Please substitute the following paragraph for the
paragraph beginning at line 1:

B5
The summary of the representatives of ~~the invention~~ of
the present invention are explained in the following.

Page 8:

Please substitute the following paragraph for the
paragraph beginning at line 6:

B6
At this time, a memory means for storing all
management information with ~~all included~~ can be included.
Further, in the aforementioned plural memory areas, an area
for storing aforementioned management information by each
memory area is provided and management information can be
stored therein.

Page 14:

Please substitute the following paragraph for the
paragraph beginning at line 18:

B7

The information processor 11 is connected to a host device 220, and it comes to be possible to access various types of information in relation to the memory unit 10 between this host device 220 and the information processor 11. Further, the information processor 11 can operate and control the memory device 12 by way of the address and data bus AD_BUS and the control bus C_BUS. For this operation control, ID information which is stored in the ID information storing memory 13 is referenced, and then it comes to be possible to operate individually for every group based on this ID information. Here, the aforementioned ID information is treated as an example of management information of the present invention.

Page 16: /

Please substitute the following paragraph for the paragraph beginning at line 15:

B8

The memory 14 as shown in FIG. 3B is divided, though it is not limited, into respective data blocks and management blocks corresponding thereto in the row direction. The data block can store data. A management block manages the aforementioned data by each 1 block unit or 1 sector unit in order to save a redundancy of the data

B8
block. If there is a ~~defected~~defective part in the data block, 1 block or 1 sector which contains the ~~defected~~defective part thereof is redundancy-saved by changing to a normal block or a normal sector in accordance with redundancy save information which is managed by the management block. The ID information storing memory 13 is structured by a flash memory and change of information of save information can be realized, and thus it comes to be possible to save the redundancy of the data block for the ~~defected~~defective part which is caused after the proper time.

Page 17:

Please substitute the following paragraph for the paragraph beginning at line 4:

B9
Further, the memory 14 is divided into a user area ①, an alternative area ②, and a managing area ③. The user area ① is defined as an area ~~where~~which a user can use. The alternative area ② is defined as an area capable of changing a part, which cannot be used by the user area ①, by each block unit or sector unit. The managing area ③ is

B9
defined as an area for managing, by each block unit and sector unit, information to identify whether or not changing has been made through the changing area and information of a changing point at the time of being changed. At the time of accessing the memory 14, information which is managed in the managing area ③ is checked, and the ~~alternated~~alternative area is accessed instead of the normal area, if the normal area is alternated.

Page 17:

Please substitute the following paragraph for the paragraph beginning at line 17:

B10
As shown in FIG. 3A, a table is formed in the ID information storing memory 13 by storing ID information of the aforementioned memories 14 to 17 in an address order. Though it is not limited, it is divided into a data block and a management block. The data block can store the data. The management block manages the aforementioned data by each 1 block unit or 1 sector unit in order to save the redundancy of the aforementioned data block. If there is a ~~defected~~defective part in the data block, 1 block or 1 sector containing the ~~defected~~defective part thereof is

B10

redundancy-saved by alternating a normal block or a normal sector in accordance with redundancy save information which is managed by the management block. Since the ID information storing memory 13 is structured by a flash memory and information of save information can be ~~cahnged~~changed, it comes to be possible to save the redundancy of the data block to the ~~defected~~defective part that is caused later.

Page 18:

Please substitute the following paragraph for the paragraph beginning at line 17:

B11

Further, the ID information storing memory 13 is divided into the user area ①, the alternative area ②, and the managing area ③ in the column direction. The user area ① is defined as an area which can be used by a user. The alternative area ② is defined as an area which can alternate the part which could not be used in the user area ① by each block unit or sector unit. The managing area ③ is defined as an area for managing, by each block unit and sector unit, information to identify whether or not

B11

changing has been made through the changing area and information of a changing point at the time of being changed. When the memory 14 is accessed, information which has been managed in the managing area ③ is checked, and the alternative area therefor is accessed instead of the normal area when the alternative area has been alternated. In this example, as described in an earlier part of the specification, the data block and the management block corresponding thereto are provided. The aforementioned data block is managed by each 1 block unit or 1 sector unit in order to save the redundancy of the data block. On the other hand, the table of ID information, which enables to control each predetermined memory area separately in beforehand, is formed in the data block.

Page 19:

Please substitute the following paragraph for the paragraph beginning at line 23:

B12

The memory device 12 is accessed by the host device 20. In the ID information storing memory 13 and the other memories 14 to 15 for storing files, there are included the data blocks and the management blocks therefor. In the case in which the data block is saved by each sector unit, in

B12
accordance with information of the management block, the ~~defected~~defective part of the data block is alternated by each sector unit. Further, in this example, in the case in which the memories 14 to 17 are accessed, in accordance with ID information which has been tabled in the table part of the ID information storing memory 13, the memory areas which have been set in advance are separately controlled.

Page 45:

Please substitute the following paragraph for the paragraph beginning at line 6:

B13
FIG. 16 is a table structure of ID information in the case in which the structure of FIG. 15 is employed. In this example, the group 0 is set in the normal read/write area, the group 1 is set in the read only area, and the group 2 is set in the spare area. Further, the memories 14, 15, 16 and 17 include respective ~~alternating~~alternative areas and management information and those ~~alternating~~alternative areas and management information are allocated. Those ~~alternating~~alternative areas and management information, however, are areas for managing the memories with reference to the origin, so it is not appropriate to have attributes in accordance with ID information. Thus all "00" are

B13
and

assigned to ID information thereof and ID information thereof should not be managed independently. Needless to say, it comes to possible to control independently by rewriting this ID information. Accordingly, it is possible to manage by rewriting only ID information for altering the ~~alternating~~alternative areas and managing areas.

Page 48:

Please substitute the following paragraph for the paragraph beginning at line 11:

B14

~~In this way, While~~ the invention that is invented by the inventor has been explained concretely, it goes without saying that the present invention is not limited thereto but can be possibly changed variously without changing the gist thereof.

Page 50:

Please substitute the following paragraph for the paragraph beginning at line 15:

B15

Though the case, in which the invention invented by the ~~present inventor~~ is mainly applied to the memory unit formed in the card shape for an application field as a background, is explained, the present invention is not

B15
limited thereto but can be applied to various memory units
widely.

Page 50:

Please substitute the following paragraph for the
paragraph beginning at line 22:

B16
The effects obtained by the ~~representative~~
onerepresentatives of the inventions that are disclosed in
the present application are described in the following.

Page 51:

Please substitute the following paragraph for the
paragraph beginning at line 5:

B17
Further, if the first control information is included
in the aforementioned management information, it is
possible to prohibit writing data in the prescribed memory
area of the aforementioned plural memory areas based
thereon and protect data that exist in the aforementioned
memory area thereby. If the second control information is
included in the aforementioned management information, it
is possible to prohibit reading out data from the
prescribed memory area of the aforementioned plural memory
areas based thereon, and thus it is possible to protect

B17

data that exist in the aforementioned memory area thereby. If the third control information is included in the aforementioned management information 9, it is possible to store data that are written in the prescribed memory area of the aforementioned plural memory areas based thereon in the plural memory areas nearly at the same time, and thus it is possible to avoid losing data by utilizing data from other memory areas. If the fourth control information is included in the aforementioned management information, it is possible to store data that are written in the prescribed memory area of the aforementioned plural memory areas based thereon in the plural memory areas after the prescribed time has passed, and thus it is possible to avoid losing data by utilizing data from other memory areas in the case in which an uncorrectable error is caused. The aforementioned management information can include the fifth control information for identifying whether or not the prescribed memory areas as the spare areas can be used. In this case, the spare area based thereon can be used, and thus the memory capacity is prevented from being reduced by alternating for the spare area.
